

Delaware Nutrient Management  
Program

DELAWARE CONSERVATION  
PRACTICE STANDARD

**CORN STALK NITRATE TEST**

(Reported by No.)

**CONSIDERATIONS**

Avoid taking samples from diseased or damaged stalks. Samples should be taken from corn grown in a uniform soil type with the same management history. Corn stalks should be sampled a minimum of one week after black layers form on approximately 80% on the kernels of most ears of corn. Samples can continue to be taken until the corn is harvested.

**DEFINITION**

End-of-season cornstalk nitrate test is used to assess the nitrogen status of a corn crop at the end of the growing season.

**PURPOSES**

This practice may be applied for one or more of the following purposes:

1. Assess nitrogen status at the end of growing season.
2. Improve nitrogen management programs on a site-specific basis.
3. Determine if corn had been under or over-fertilized.

**CRITERIA**

**Materials.** Collect 15, 8-inch sections of corn stalk (between 6 and 14 inches above the ground) from each sample area. Remove leaf sheaths and avoid any damaged or diseased plants.

Immediately after samples are taken, they should be air dried on a thin layer of non-absorbent paper.

**REFERENCES**

University of Delaware guidelines for using the Corn Stalk Nitrate Test can be found at:  
<http://ag.udel.edu/extension/agnr/pdf/nm-03.pdf>

**CONDITIONS WHERE PRACTICE  
APPLIES**

This practice applies where:

1. Producers need to improve their nitrogen management programs.
2. Plants show visual signs of a nitrogen deficiency, such as “yellowing”.
3. Plants appear to be getting excessive amounts of nitrogen and appear dark green, though this is less obvious than “yellowing”.